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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :  
PIERRE JEANVOINE, ET AL. : EXAMINER: VINCENT, S. E.  
SERIAL NO: 09/381,631 :  
FILED: MARCH 1, 2000 : GROUP ART UNIT: 1731  
FOR: METHOD AND DEVICE FOR :  
MELTING AND REFINING MATERIALS  
CAPABLE OF BEING VITRIFIED

REPLY BRIEF

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

The following is a Reply Brief in response to the Examiner's Answer dated August 25, 2005 (Answer).

As a preliminary matter, since the Examiner has relied on Merriam-Webster and Titus et al, it is appropriate to list them in the statement of the grounds of rejection (statement), as pointed out in the Appeal Brief at 4n.1. Thus, the Examiner's finding that the statement is incorrect (Answer at 2) is, itself, incorrect. Nevertheless, the statement should have no impact on the merits of the rejections.

The remainder of this Reply Brief is in reply to the Response to Argument (Answer at 7-10).

Applicants again emphasize that the present claims are drawn to a process of manufacturing glass, and require the step "manufacturing glass from said melted vitrifiable

materials,” as recited in independent Claim 38.<sup>1</sup> Indeed, it is notoriously well-known that manufacturing of glass following the melting of glass-forming materials would be expected to include other steps, such as refining, although the presently-claimed invention is not limited to particulars of such other steps. See the specification at page 33, line 20ff.

Floyd et al, on the other hand, is concerned with “disposal of municipal and industrial waste” (column 2, lines 31-32). A goal of Floyd et al is also the conversion of such waste to a more environmentally acceptable form (column 2, lines 46-47), which presumably forms the basis for Floyd et al's disclosure that slag from their process can be used as landfill (column 13, lines 18-21).

The Examiner has, in effect, equated the slag of Floyd et al with the presently-recited glass (Answer at 7-9). The Examiner's basis for this finding is that the slag of Floyd et al contains metal oxides, and is disclosed as a glassy phase. However, the slag of Floyd et al necessarily contains other components. For example, Floyd et al's slag “essentially encapsulates any ash produced and retains in solid solution any heavy metals which are not able to form a fume” (column 7, lines 46-48). In addition, various bound-carbon containing material in the waste is retained in the slag bath until it is able to be combusted/oxidized and/or caused to undergo decomposition reactions or thermal cracking (column 6, lines 25-35). Since the slag may be tapped continuously (column 6, lines 47-48), the tapped slag of Floyd et al will necessarily include some of this waste material. Indeed, in the example of Floyd et al, carbon is present as well as components described as “Others.” It is thus further clear that the tapped slag of Floyd et al is necessarily heterogeneous, i.e., it contains solid particulates which render it non-transparent, and would thus not be acceptable in the case of glass manufacture.

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<sup>1</sup> All but Claims 105 and 106 require the step as quoted. Claim 105 is drawn to recycling metal/glass or plastic/glass composite materials; Claim 106 is drawn to manufacturing an electronic part.

Moreover, it is the very nature of the slag of Floyd et al that would deter persons skilled in the art to use Floyd et al to manufacture glass. Indeed, to include liquid or solid combustible elements in molten glass in a glass manufacturing process would be expected to have a detrimental effect on the appearance of the glass. This would not be important to Floyd et al, who were not interested in the appearance of their slag product. It would not have been obvious that organic material such as plastic, carbon, etc., could be efficiently burned in the mass of glass, particularly because the oxygen necessary for combustion is supplied by submerged burners. In Floyd et al, the final slag has a relatively small volume compared to the total mass of waste treated (column 8, lines 42-44). While Applicants pointed out in the Appeal Brief filed July 9, 2003, that Fig. 1 of Floyd et al indicated a very porous mass and that gases could easily circulate through the treated mass, Applicants were referring to the totality of the mass therein, of which the slag was only a very small percentage. The slag itself, as disclosed by Floyd et al, is non-porous (column 6, line 57). Thus, the Examiner's finding (with regard to Claims 115 and 116) that Applicants, in effect, admitted that Floyd et al discloses foamy glass (Answer at 9), is clearly erroneous.

The Examiner finds that Applicants do not claim or disclose a proportion of glass in the feed stream or product of the present invention (Answer at 8). In reply, given the description of the feed materials, i.e., batch materials, cullet, vitrifiable waste, and mixtures thereof, and that the final product is glass, as that term would be understood by persons skilled in the art, one skilled in the art would appreciate that the proportion of glass in the feed stream would be significant, because obviously an insignificant proportion of glass would be useless in carrying out the goals of the present invention.

Notwithstanding the above-discussed differences between the presently-claimed invention and Floyd et al, Floyd et al is nonanalogous art, contrary to the findings of the Examiner (Answer at 8). The Examiner finds that Floyd et al is analogous art in that it is

“more than reasonably pertinent to the problem with which the inventor is involved because municipal waste contains glass and slag is molten glass” (*id.*). In reply, that municipal waste may contain glass, and that the slag of Floyd et al contains metal oxides and is a glassy phase, does **not** make Floyd et al analogous art. Applicants have already explained in the Appeal Brief why Floyd et al does not meet the criteria set forth by applicable precedent. The Examiner has not rebutted the particular arguments set forth therein.

Regarding the Examiner's combination of Floyd et al and Greve, the Examiner finds that Applicants “did not address these motivational statements or explain why they are supposedly incorrect. This is tantamount to acquiescence with the examiner's statements of motivation” (Answer at 10). In reply, the Examiner relies on Greve for his disclosure of recycling reinforced plastic composite materials such as glass reinforced plastic composite materials. However, Applicants do not pretend to be the first to suggest recycling of such materials or to produce glass from such materials. However, Applicants contend, and have so argued in the Appeal Brief, that one skilled in the art would not have used or modified the process of Floyd et al for such recycling or production. Indeed, without the present disclosure as a guide, one skilled in the art would not use Floyd et al for anything other than disposal of municipal and industrial waste, with the exception of using slag from Floyd et al's process for landfill or some vague use as a “building material or for such engineering purposes as shot blasting” (column 6, lines 51-53).

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Reply to Examiner's Answer of August 25, 2005

Applicants continue to maintain that the presently-pending claims are patentable over  
the applied prior art.

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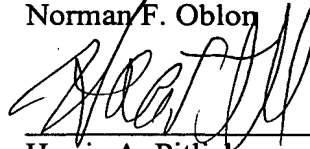
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